As in the case of his volume on the "Laws of Wages," Prof. Moore brings a distinct freshness of view to his task, and has made an important contribution to the subject with which he deals. What one most misses is any reference to the labours of others who have preceded him in the same field, and rendered the hypothesis one that many have already accepted, though some of them may only be willing to regard the weather-cycle as a contributory cause.

Directions for a Practical Course in Chemical Physiology. By Dr. W. Cramer. Second edition. Pp. viii + 102. (London: Longmans, Green and Co., 1915.) Price 3*s*. net.

THIS is a useful little laboratory manual, in which the author states he has departed from the method usually employed. This departure may be illustrated by an example; there are certain tests for starch; it is usual to take commercial starch and perform the tests with this; the student is generally instructed also to prepare enough starch from the potato to illustrate its microscopic appearances. Dr. Cramer adopts the method of starting with the potato, and instructs his pupils to prepare from it enough starch for macroscopic experiments also. The distinction between the two methods is rather apparent than real, and Dr. Cramer's method involves more trouble to the student, which may not be a bad thing. Another departure one notices is that the results of a reaction are not explained; he interpolates instead questions such as, what change occurs? or why is this? or explain the result. This plan of stimulating inquiry is an excellent one for the student above the average; but one fears that 95 per cent. of the class will leave the questions unanswered, and be content with their ignorance. The author, moreover, is not consistent in the use of this method of questioning; one notes, for instance, in such subjects as blood-clotting and nerve chemistry, subjects on which Dr. Cramer holds special views of his own, that the teaching is didactic; it would evidently be unsafe to leave students here free to pursue independent inquiry.

W. D. H.

Soil Conditions and Plant Growth. By Dr. E. J. Russell. Pp. viii + 190. New edition. Monographs on biochemistry. (London: Longmans, Green and Co., 1915.) Price 5*s*.

THE first edition of Dr. Russell's book was reviewed in the issue of NATURE for October 24, 1912 (vol. xc., p. 215). To the new edition a chapter has been added on the relationship between the micro-organic population of the soil and the growth of plants, and also a number of sections dealing with recent developments of other parts of the subject.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. *No notice is taken of anonymous communications.]*

Early Figures of the Opossum.

IN view of the fact that several communications have appeared in NATURE during the past year concerning the first mention of the American opossum in literature, it may not be inopportune to direct attention to some of the early illustrations of this animal in maps and in printed works. First of all, it should be stated that the earliest reference to the opossum is found in the famous collection of voyages known as "Paesi Novamente Retrovati," published in 1507. In chapter cxiii. of that work it is mentioned that a live specimen, taken by the Pinzons in Brazil in 1500, was exhibited in Granada.

In the Waldseemüller map of 1516 a drawing intended to represent the opossum, as indicated by its accompanying legend, is introduced in the Brazilian region of South America; and this figure is copied in a number of later maps, and also in the Italian edition (1558) of Sebastian Münster's "Cosmographia."

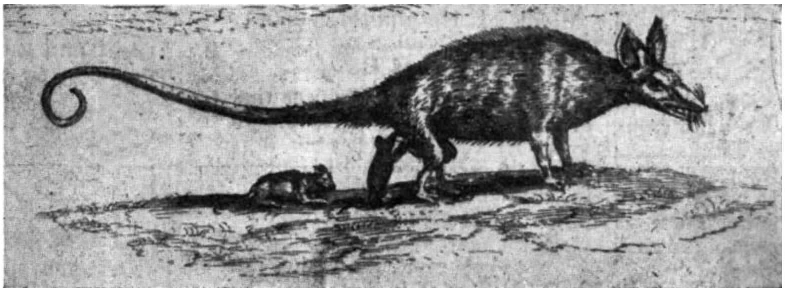

FIG. 1.

Under the native designation of "Su," a grotesque figure of the opossum was given by André Thevet, in his volume published in 1558, and in the same year appeared the "Wahrhaftig Historia" of Hans Stade, of Homburg, wherein occur (cap. xxxi.) two illustrations, and descriptions, of these Brazilian animals, one of which is called the "Servoy" (*Didelphis marsupialis*, L.) and the other "Dattu" (*Dasypus novemcinctum*). The descriptions read as follows:—

"There is also a kind of game, called servoy, which is as large as a cat, and has a tail like a cat; its fur is gray, and sometimes grayish black. And when it breeds, it bears five or six young. It has a slit in the belly about half a span in length. Within the slit there is yet another skin; for its belly is not open, and within this slit are the teats. Wherever it goes, it carries its young in the pocket between the two skins. I have often helped to catch them and have taken the young ones from out of the slit."

"There is another sort of animal found in this country which the savages call *dattu*; it stands about six inches high and is nine inches long; its body is covered all over, except underneath, with a kind of armor. This covering is horn-like, and the plates overlap one another like those of chain armor. This animal has a very long snout, and is usually found on rocks. It feeds on ants. Its flesh is sweet and I have often eaten of it."

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Several species of American marsupials are figured by seventeenth-century writers, such as J. E. Nieremberg (1635), George Marcgrav (1648), César de Rochefort (1658), and others. An illustration given by the last-named author is here reproduced (Fig. 1).

C. R. Eastman.

American Museum of Natural History.

Differential Antiseptic Action of Organic Dyes.

An important property of certain organic dyes is their differential antiseptic action. Thus, varieties of *B. coli* commonly met with in the intestine are more susceptible to the inhibitory action of the tetraethyldiamidotriphenylmethane derivative, "brilliant green," than are typhoid or paratyphoid bacilli. The use of a fluid culture medium containing this dye (along with telluric acid) facilitates greatly the isolation of scanty typhoid and paratyphoid bacilli from fæces, since the growth of the various members of the *coli* group can be restrained, while the organisms in question proliferate actively. The detection of cases of typhoid infection, *e.g.* in "carriers," which is frequently a difficult bacteriological problem, can be materially simplified by this procedure. But our supplies of brilliant green have hitherto been derived from Germany, and I shall be indebted to your readers for information as to whether this dye is prepared in a fairly pure state by anyone in this country.

C. H. Browning.

The Bland-Sutton Institute of Pathology,
The Middlesex Hospital, London, W.

The Physical Properties of Isotopes.

Dr. Lindemann (Nature, March 4) deduces that the vapour pressure of lead from radio-active origin, or of radium D, should be very considerably different from ordinary lead at comparatively low temperatures. It would be no easy matter to test this at such a low temperature as 100° C. However, it is being found possible to make measurements of the vapour pressure of cadmium down to 10^{-6} mm., and the method should be applicable to the point in question.

It is interesting to note in connection with the last paragraph of Dr. Lindemann's letter that the arc spectra of lead of radio-active origin and of ordinary lead show no difference, as Mr. T. R. Merton has recently found, further confirming the view that the external electrons are responsible both for the spectra and the individual chemical properties of elements.

Alfred C. Egerton.

19 Old Court Mansions, Kensington.

A Misprint in Halphen's "Fonctions Elliptiques."

Having recently had to use Halphen's multiplication formulæ for the special cases of the lemniscate functions ($g_3=0$), I have convinced myself that there is a rather serious misprint in his expression for ψ_4 (vol. i., p. 96), namely, instead of $+\frac{1}{32}g_2^3$ in the last term, we should read $-\frac{1}{32}g_2^3$. Thus with $g_2=4$, and this correction, we have

$$\begin{aligned}\psi_4 &= \wp'(-2\wp^6+10\wp^4+10\wp^2-2)\\ &= -2\wp'(\wp^2+1)(\wp^4-6\wp^2+1)\end{aligned}$$

where the factor $(\wp^2+1)$ can be foreseen from the theory. With the other sign we have no such resolution.

G. B. Mathews.

Early References to Musical Sands.

An allusion to musical sands may be found in one of the tales from the "Arabian Nights"—"The Story of the Two Sisters who were jealous of their Younger Sister." Prince Bahman, who was journeying in search of rarities and treasures, reaches the foot of a mountain, and while ascending "was assailed with the most hideous sounds," while others who followed him heard "groans, shouts, and all sorts of insulting epithets." One of the wonders they were in search of was the "Singing Tree," which "commenced to issue a series of exquisite strains of music" as soon as the Princess Parizadé saw it.

Cecil Carus-Wilson.

March 21.

TWO CHINESE TOURS.[1]

A somewhat unexpected sequel to the mission which Sir Francis Younghusband led to Lhassa in 1903–4 was the appreciation by Chinese officials of the fact that the trade in Indian opium, which has at times been held up as a reproach to England, was in reality due to the demand of China for the drug. It is interesting to reflect that the truth should first have dawned upon a Chinese envoy who had been educated in the United States. The novel idea took root and engendered a movement which spread in China with such rapidity that in 1906 an imperial edict dealing with the opium question was promulgated. This rescript embodied elaborate provisions for the immediate curtailment and the gradual extinction of the use of the drug. Necessarily, therefore, it took account not only of the enormous Chinese out-turn of opium, but of the smaller, though still important amount imported from India. Proposals and counter-proposals were accordingly formulated in 1907 by the Governments of China and Britain, and certain regulations, to remain effective for three years, were agreed upon by the high contracting parties and became operative in 1908.

Meanwhile the Government of the United States thought fit to initiate a movement of an international character which culminated in the assembly at Shanghai in 1908 of an opium commission, the findings of which reflect a desire to aid the Chinese authorities in their crusade against the opium habit; while, before the preliminary period of three years had expired, negotiations for a new agreement between China and the United Kingdom were set on foot. As a preliminary to the ratification of this agreement it was desirable that his Majesty's Government should know what had been the actual effect in China of the restrictive measures adopted there in response to the imperial injunctions of 1906. The officer to whom the important duty of reporting upon this feature of the case was Sir Alexander Hosie. No one better fitted for the duty of traversing the six provinces of China, known to have been the chief opium-producing areas in that empire, could have been selected. Sir Alexander had already travelled extensively, and in some cases, as an officer of the Chinese Consular Service, had resided in the provinces

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[1] "On the Trail of the Opium Poppy. A Narrative of Travel in the Chief Opium-producing Provinces of China." By Sir Alexander Hosie. 2 vols. Vol. i., pp. viii+300. Vol. ii., pp. 308. (London: G. Philip and Son, Ltd., 1914.) Price 25*s*. net 2 volumes.

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